

**APPENDIX B TO THE CONSENT DECREE BETWEEN THE STATE OF  
ARIZONA AND DEFENDANTS HONEYWELL INTERNATIONAL INC. AND  
FREESCALE SEMICONDUCTOR, INC.**

**STATEMENT OF WORK FOR  
THE OPERABLE UNIT 2 INTERIM REMEDIAL ACTION**  
Motorola 52<sup>nd</sup> Street Superfund Site  
Phoenix, Arizona

**1. Introduction**

This Statement of Work (SOW) describes the work that Honeywell International Inc. and Freescale Semiconductor, Inc. (“Work Party Settling Defendants”) shall perform for the continued operation and maintenance “O&M”) of the Operable Unit 2 (“OU2”) Treatment Facility. The U.S. Environmental Protection Agency (“EPA”) and the Arizona Department of Environmental Quality (“ADEQ”) selected the OU2 Interim Remedial Action in the July 1994 Record of Decision (“ROD”) as revised by the September 1999 Explanation of Significant Differences (“ESD”). The primary purpose of the OU2 Interim Groundwater Remedy is to establish a capture zone across the entire width and depth of the contaminant plume in the area of Interstate 10. A secondary purpose is to reduce contaminant concentrations in the alluvial aquifer upgradient of the extraction wells. The primary contaminants of concern are trichloroethene (“TCE”) and 1,1,1-trichloroethane (“TCA”) and their associated degradation products.

The OU2 groundwater extraction and treatment system consists of the following components:

- Groundwater extraction wells;
- Central treatment facility;
- Conveyance piping from the extraction wells to the central treatment facility and from the central treatment facility to the discharge to the Salt River Project (“SRP”) Grand Canal; and
- A monitoring well network to monitor the effect of system operations.

The Work Party Settling Defendants constructed and initiated operation of the OU2 groundwater extraction and treatment system in accordance with Amended Unilateral Administrative Order 98-15 (January 1999) and the Second Amended Order 98-15 (December 2003). Construction was implemented from March 20, 2000 to September 24, 2001. System start-up and commissioning activities commenced on September 26, 2001. The Work Party Settling Defendants submitted notification of completion of start-up activities and initiation of routine operations on December 13, 2001. Reports on the effectiveness of routine operations were submitted on April 15, 2003 (for 2002 Operations); August 8, 2003 (revised report for 2002 operations); April 15, 2004 (for 2003 operations); April 14, 2005 (for 2004 operations), April 14, 2006 (for 2005 operations), April 14, 2007 (for 2006 operations), April 15, 2008 (for 2007 operations), and April 15, 2009 (for 2008 operations).

The Work Party Settling Defendants have operated the OU2 groundwater extraction and treatment system in accordance with the Second Amended Order 98-15 and pursuant to an updated Operations & Maintenance Manual ("O&M Manual") submitted to EPA by Work Party Settling Defendants on May 11, 2004, updated by the Work Party Settling Defendants on July 13, 2004, and approved by EPA on August 31, 2004.

## **2. Operations & Maintenance**

Except as provided for in Section XXI of the Consent Decree [Force Majeure], Work Party Settling Defendants shall operate the groundwater extraction and treatment system in accordance with the approved O&M Manual to ensure compliance with the Applicable, or Relevant and Appropriate Requirements (ARARs) set forth in the OU2 ROD and ESD. In accordance with the procedures and the frequency described in the O&M Manual, Work Party Settling Defendants shall conduct monitoring of groundwater and treated groundwater discharge for the purposes of demonstrating compliance with the Performance Standards set forth in this SOW.

**A. Updated O&M Manual**

Within 60 days after the effective date of the Consent Decree or 60 days after EPA rescinds the Second Amended Order, whichever is later, Work Party Settling Defendants shall update the O&M Manual to reflect that the work is being performed under the oversight of ADEQ in accordance with the requirements of the Consent Decree and this SOW. Work Party Settling Defendants shall also update Section 7.1.1 of the O&M Manual [Monitoring Well Network] to include the most recently installed monitor wells. Thereafter, the O&M Manual shall be updated, as appropriate, to document major system or operational modifications and to ensure that the system continues to operate in accordance with the requirements of the Consent Decree and this SOW. Any proposed changes to the O&M Manual shall be submitted, in writing, to ADEQ for prior approval in accordance with Section XII of the Consent Decree [ADEQ Approval of Deliverables and Other Submissions].

**B. Groundwater Treatment Performance Standards**

Except as provided for in Section XXI of the Consent Decree [Force Majeure], Work Party Settling Defendants shall treat all extracted groundwater to meet, at the point of discharge, currently the SRP Grand Canal, the Safe Drinking Water Act maximum contaminant level for the volatile organic compounds (“VOCs”) set forth below:

1,1,1-trichloroethane	200 ug/L
1,1-dichloroethene	7 ug/L
tetrachloroethene	5 ug/L
trichloroethene	5 ug/L
cis-1,2-dichloroethene	70 ug/L
trans-1,2-dichloroethene	100 ug/L

vinyl chloride	2 ug/L
trichlorofluoromethane	100 ug/L

If the Performance Standards for groundwater treatment are exceeded at the point of discharge to the SRP Grand Canal, then Work Party Settling Defendants shall: 1) provide written notification to ADEQ within 24-hours of identification of the exceedance; 2) collect confirmation samples and provide the confirmation sampling results to ADEQ within 48-hours of identification of the exceedance; and 3) temporarily shut down the treatment system in order to evaluate the system and make necessary adjustments. The Work Party Settling Defendants shall make adjustments to the treatment system in accordance with Section 8 [Contingency Plan] of the O&M Manual to return the system to compliance with the Performance Standards for groundwater treatment. When the system is restarted, a sample at the point of discharge shall be collected in accordance with the schedule set forth in Section 7.2.8.2 [Discharge to the SRP Grand Canal] of the O&M Manual to ensure compliance with the Performance Standards for groundwater treatment.

### **C. Groundwater Containment Performance Standard**

Except as provided for in Section XXI (Force Majeure) of the Consent Decree, Work Party Settling Defendants shall establish and maintain a capture zone across the entire width and depth of the contaminant plume in the area of Interstate 10.

On an annual basis, as set forth in Section 5 of this SOW, Work Party Settling Defendants shall perform a hydraulic capture analysis describing groundwater containment using water elevation and water quality data, including data trends for both, collected from, at a minimum, the monitoring well network (the "OU2 Monitoring Well Network") identified in Section 7.1.1 of the O&M Manual [Monitoring Well Network]. Work Party Settling

Defendants may utilize additional evaluations, including analytical and/or numeric modeling, to support the demonstration of hydraulic capture.

If, based on ADEQ's review of the Effectiveness Report, Performance Standards for groundwater containment are not being met, Work Party Settling Defendants shall, within sixty (60) days of receiving written notice from ADEQ of its review, submit a contingency workplan to ADEQ for approval pursuant to Section XII of the Consent Decree [ADEQ Approval of Deliverables and Other Submissions]. In developing the contingency workplan, Work Party Settling Defendants shall evaluate potential modifications to the OU2 Interim Remedial Action including one or more of the following activities:

- i. increasing the frequency of hydraulic monitoring;
- ii. increasing the frequency of water quality monitoring;
- iii. adding wells to the OU2 Monitoring Well Network;
- iv. performing more detailed hydrogeologic analyses;
- v. modifying the flow rate from one or more extraction wells;
- vi. lowering the intakes at one or more of the extraction well pumps;
- vii. replacing one or more extraction well pumps;
- viii. conducting well rehabilitation efforts at one or more extraction wells;
- ix. modifying or deepening one or more extraction wells;
- x. installing additional groundwater extraction wells; or
- xi. any other actions that may be determined to be appropriate at the time.

The contingency workplan shall evaluate the protectiveness, implementability, technical feasibility, safety, cost effectiveness, and water resource considerations of the alternatives being considered. As part of developing the contingency workplan, Work Party Settling Defendants may also request modification of the Performance Standard for groundwater containment in accordance with Section VIII of the Consent Decree [Contingency Plan].

### **3. Progress Reporting**

On the 15<sup>th</sup> day of each January, April, July, and October, Work Party Settling Defendants shall submit to ADEQ an O&M progress report summarizing the previous 3-month period of operation of the OU2 groundwater extraction and treatment system. The progress report will include a summary of the gallons of water treated; a summary of the results of treatment system performance samples collected to demonstrate compliance with the Performance Standards for groundwater treatment; copies of laboratory results of the treatment system performance samples collected; a calculation of the estimated pounds of VOCs removed; a discussion of significant O&M activities conducted during the subject 3 month period, including any operational issues or problems encountered, any anticipated problems, any actual or anticipated delays, solutions developed and implemented and other corrective actions taken or planned, and a description of other significant work planned for the next quarter. Any proposed changes to the process monitoring frequency shall be submitted in writing to ADEQ for prior approval in accordance with Section XII [ADEQ Approval of Deliverables and Other Submissions] and XXXI [Modification] of the Consent Decree.

### **4. Groundwater Monitoring**

As part of the O&M Manual, Work Party Settling Defendants have prepared a Field Sampling Plan and a Quality Assurance Project Plan describing the locations, frequency, methods, and procedures for conducting water level and water quality monitoring of the OU2 Area Groundwater Monitoring Well Network. The Work Party Settling Defendants shall continue to implement the groundwater monitoring program in accordance with these plans in order to collect the data that will be used in the Effectiveness Report to demonstrate compliance with the Performance Standard for groundwater containment. Within 45-days after the end of the monitoring period as set forth in the Field Sampling Plan, Work Party Settling Defendants shall submit to ADEQ a Groundwater Monitoring Report that includes

tabulated and posted water level data in plan and cross-section view, water elevation contour maps in plan view for the alluvial aquifer in the OU2 capture zone area, and, if applicable for the monitoring period, tabulated and posted groundwater quality data in plan and cross-section view and copies of the laboratory analytical data reports. Work Party Settling Defendants shall also submit the water quality data, depth to water measurements and calculated water elevation data in electronic spreadsheet format within 45 days of the end of the monitoring period. Any proposed changes to the Field Sampling Plan including sampling locations or the water level or water quality monitoring frequency shall be submitted in writing to ADEQ for prior approval in accordance with Sections XII [ADEQ Approval of Deliverables and Other Submissions] and XXXI [Modification] of the Consent Decree.

## **5. Effectiveness Reporting**

Unless the ADEQ and the Work Party Settling Defendants agree to different dates, on or before March 31<sup>st</sup> of each year, Work Party Settling Defendants shall submit to ADEQ an Effectiveness Report that includes an evaluation of the analytical and hydraulic monitoring data collected the previous year, beginning October 1<sup>st</sup> through September 30<sup>th</sup>, to describe compliance with the Performance Standards for groundwater treatment and groundwater containment. The Effectiveness Reports shall include:

- i. a summary of the treatment system performance during the prior calendar year including total volume of water treated and estimated mass of VOCs removed for the year and since operations started;
- ii. a summary of major maintenance and repair work conducted on the treatment system;
- iii. water elevation and TCE concentration contour maps in plan view overlain by interpreted flow paths;
- iv. water elevation and TCE concentration data in cross section view;

- v. a comparison of the September water elevations and TCE concentrations to the September 2001 baseline groundwater conditions set forth in the Baseline Groundwater Monitoring Report, July to November, 2001 – Operable Unit 2 Area.;
- vi. a comparison of the September water elevations and TCE concentrations to September 2006 water elevations and TCE concentrations;
- vii. a comparison of the water elevations and TCE concentrations collected in September of the current reporting year to the same data collected in the prior year;
- viii. an evaluation of hydraulic capture utilizing water elevation and water quality data including data trends for both, collected from the OU2 Monitoring Well Network;
- ix. hydrographs and VOC time series graphs for each monitoring well in the OU2 Monitoring Well Network; and
- x. recommendations, if any, for modifying the OU2 Treatment Facility operations or the OU2 Monitoring Well Network or the groundwater monitoring program.

The Effectiveness Report will also include the results of any additional evaluations used by Work Party Settling Defendants to support the demonstration of hydraulic containment.

## **6. Modification**

Pursuant to Section XXXI of the Consent Decree [Modification], modifications to this SOW may be made by written agreement between the Parties.